1. A compound of Formula I:

F N N N

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wherein,

R¹ is H,

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alkyl having 1 to 5 carbon atoms, which is unsustituted or substituted one or more times by halogen, hydroxy, or combinations thereof, and wherein a -CH₂- group can be optionally replaced by O-, -S-, or -NH-,

cycloalkyl having 3 to 6 carbon atoms, or

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cycloalkylalkyl having 4 to 7 C atoms

R²

is alkyl having 1 to 12 carbon atoms, which is unsubstituted or substituted one or more times by halogen, hydroxy, cyano or combinations thereof, wherein one or more -CH₂- groups is each independently optionally replaced by -O-, -S-, or -NH-, and wherein optionally one or more -CH₂CH₂- groups is replaced in each case by -CH=CH- or -C \equiv C-,

alkyl ether having 3 to 12 carbon atoms,

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cycloalkyl having 3 to 12 carbon atoms, which is unsubstituted or substituted one or more times by halogen, C_{1-4} alkyl, halogenated C_{1-4} alkyl, C_{1-4} alkoxy, cyano or combinations thereof,

cycloalkylalkyl having 4 to 12 C atoms, which is unsubstituted or substituted one or more times by C_{1-4} alkyl, halogenated C_{1-4} alkyl, C_{1-4} alkoxy, cyano, halogen, or combinations thereof,

aryl having 6 to 14 carbon atoms, which is unsubstituted or substituted one or more times by halogen, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, nitro, methylenedioxy, ethylenedioxy, amino, C_{1-4} alkylamino, di- C_{1-4} -alkylamino, C_{1-4} -hydroxyalkyl, C_{1-4} -hydroxyalkoxy, carboxy, cyano, hydroxamic acid, carboxamide, C_{2-4} -acyl, C_{2-4} -alkoxycarbonyl, C_{1-4} -alkylsulphinyl, C_{1-4} -alkylsulphonyl, phenoxy, or combinations thereof,

arylalkyl having 7 to 16 carbon atoms, which is unsubstituted or substituted one or more times by halogen, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, nitro, methylenedioxy, ethylenedioxy, amino, C_{1-4} alkylamino, C_{1-4} -alkylamino, C_{1-4} -hydroxyalkyl, C_{1-4} -hydroxyalkoxy, carboxy, cyano, hydroxamic acid, carboxamide, C_{2-4} -acyl, C_{2-4} -alkoxycarbonyl, C_{1-4} -alkylthio, C_{1-4} -alkylsulphinyl, C_{1-4} -alkylsulphonyl, phenoxy, or combinations thereof,

heteroaryl having 5 to 10 ring atoms in which at least 1 ring atom is a heteroatom, which is unsubstituted or substituted one or more times by halogen, aryl, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, cyano, trifluoromethyl, nitro, oxo, amino, C_{1-4} -alkylamino, di- C_{1-4} -alkylamino, carboxy, alkoxycarbonyl, hydroxamic acid, carboxamide, C_{1-4} -alkylthio, C_{1-4} -alkylsulphinyl, C_{1-4} -alkylsulphonyl, or combinations thereof,

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heteroarylalkyl wherein the heteroaryl portion has 5 to 10 ring atoms in which at least 1 ring atom is a heteroatom and the alkyl portion has 1 to 3 carbon atoms, the heteroaryl portion is unsubstituted or is substituted one or more times in by halogen, aryl, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, cyano, trifluoromethyl, nitro, oxo, amino, C_{1-4} -alkylamino, di- C_{1-4} -alkylamino, carboxy, alkoxycarbonyl, hydroxamic acid, carboxamide, C_{1-4} -alkylthio, C_{1-4} -alkylsulphinyl, C_{1-4} -alkylsulphonyl, or combinations thereof,

heterocycle having \S to 10 ring atoms in which at least 1 ring atom is a heteroatom, which is unsubstituted or is substituted one or more times in the by halogen, aryl, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, evano, trifluoromethyl, nitro, oxo, amino, C_{1-4} -alkylamino, di- C_{1-4} -alkylamino, carboxy, alkoxycarbonyl, or combinations thereof,

heterocycle-alkyl wherein the heterocycle portion has 5 to 10 ring atoms in which at least 1 ring atom is a heteroatom and the alkyl portion has 1 to 3 carbon atoms, the heterocycle portion is nonarmoatic and is unsubstituted or is substituted one or more times in the by halogen, aryl, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, cyano, trifluoromethyl, nitro, oxo, amino, C_{1-4} -alkylamino, di- C_{1-4} -alkylamino, carboxy, alkoxycarbonyl, or combinations thereof, or

carbocycle which is nonaromatic, monocyclic or bicyclic, group having 5 to 14 carbon atoms, which is unsubstituted or is substituted one or more times in the by halogen, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, nitro, methylenedioxy, ethylenedioxy, amino, C_{1-4} alkylamino, C_{1-4} -hydroxyalkyl, C_{1-4} -hydroxyalkoxy, carboxy, cyano, hydroxamic acid, carboxamide, C_{2-4} -acyl, C_{2-4} -alkoxycarbonyl, C_{1-4} -alkylthio, C_{1-4} -alkylsulphinyl, C_{1-4} -alkylsulphonyl, phenoxy, or combinations thereof;

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with the provisos that:

- (a) when R¹ is methyl, then R² is not arylalkyl, heteroarylalkyl, 2-(1,2,3,4tetrahydro)quinolinyl-methyl, methyl or 2-butyl;
- (b) when R¹ is cyclopropyl, R² is not 4-methylbenzyl;
- (c) when R¹ is ethyl, then R² is not ethyl, 3-aminobenzyl, 2-thienylmethyl, 3-thie hylmethyl, or 2-pyridylmethyl;
- (d) when R¹ is cyclopropyl, then R² is not cyclopropylmethyl;
- (e) when R^1 is H, then R^2 is not methyl, ethyl, benzyl, 4-methylbenzyl, or substituted tetrahydrofuranyl;
- (f) when R¹\is methoxyethyl, then R² is not benzyl, 3dimethylaminobenzyl, or 3-thienylmethyl;
- (g) when R¹ is so-butyl, then R² is not benzyl; and
- (h) when R¹ is n-butyl, then R² is not n-butyl.
- A compound according to claim 1, wherein when R¹ is methyl, R² is not arylalkyl. 20 . 2. heteroarylalkyl, 2-(1,2,3,4-tetrahydro) quinolinyl-methyl or C_{1-5} -alkyl.
- A compound according to claim 1, wherein R¹ is alkyl. 25 3.
 - A compound according to claim 1, wherein R¹ is cycloalkyl. 4.
 - A compound according to claim 1, wherein R¹ is cycloalkylalkyl. 5.
 - 6. A compound according to claim 1, wherein \mathbb{R}^2 is alkyl.

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- 7. A compound according to claim 1, wherein R^2 is alkyl ether.
- 8. A compound according to claim 1, wherein R² is cycloalkyl.
- 5 9. A compound according to claim 1, wherein R² is aryl.
 - 10. A compound according to claim 1, wherein R² is arylalkyl.
 - 11. A compound according to claim 1, wherein R² is heteroaryl.
 - 12. A compound according to claim 1, wherein R² is heteroarylalkyl.
 - 13. A compound according to claim 1, wherein R² heterocycle.
- 15 14. A compound according to claim 1, wherein R² heterocycle-alkyl.
 - 15. A compound according to claim 1 wherein R²carbocycle.
- 16. A compound according to claim 1, wherein R¹ is alkyl, substituted alkyl, 20 cycloalkyl or cycloalkylalkyl.
 - 17. A compound according to claim 6, wherein R¹ is alkyl, cycloalkyl or cycloalkylalkyl.
- 25 18. A compound according to claim 7, wherein R¹ is alkyl, cycloalkyl or cycloalkylalkyl.

- 19. A compound according to claim 8, wherein R¹ is alkyl, cycloalkyl or cycloalkylalkyl.
- 20. A compound according to claim 9, wherein R¹ is alkyl, cycloalkyl or cycloalkylalkyl.
 - 21. A compound according to claim 10, wherein R¹ is alkyl, cycloalkyl or cycloalkylalkyl.
- 10 22. A compound according to claim 11, wherein R¹ is alkyl, cycloalkyl or cycloalkylalkyl.
 - 23. A compound according to claim 12, wherein R¹ is alkyl, cycloalkyl or cycloalkylalkyl.
 - 24. A compound according to claim 13, wherein R¹ is alkyl, cycloalkyl or cycloalkylalkyl.
- 25. A compound according to claim 14, wherein R¹ is alkyl, cycloalkyl or cycloalkylalkyl.
 - 26. A compound according to claim 15, wherein R¹ is alkyl, cycloalkyl or cycloalkylalkyl.
- 25 27. A compound according to claim 1, wherein R¹ is methyl, ethyl, isopropyl, 2-hydroxyethyl, cyclopropyl, cyclopentyl, or cyclopropylmethyl.
 - 28. A compound according to claim 1, wherein R¹ is methyl, ethyl, cyclopropyl, cyclobutyl, cyclopentyl or cyclohexyl.

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- A compound according to claim 1, wherein R¹ is methyl, ethyl or cyclopropyl.
- 30. A compound according to claim 1, wherein R² is alkyl, arylalkyl, cycloalkyl,
- 5 aryl, heteroaryl, heteroarylalkyl, or alkyl ether.
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- 31. A compound according to claim 1, wherein R² is ethyl, isopropyl, butyl, tertbutyl, cyclopentyl, cyclohexyl, cycloheptyl, or arylalkyl which is unsubstituted or substituted one or more times by F, Cl, CN, CF₃, CH₃, C₂H₅, isopropyl, OCH₃,
- methylenedioxy, ethylenedioxy or combinations thereof.
 - 32. A compound according to claim 1, wherein R² is substituted or unsubstituted benzyl, phenethyl or phenpropyl.
- 15 33. A compound of formula II

wherein

20 R^{1'} is methyl, ethyl, or cyclopropyl; and

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- $R^{2'}$ is cycloalkyl having 3 to 12 carbon atoms, which is unsubstituted or substituted one or more times by halogen, C_{1-4} alkyl, halogenated C_{1-4} alkyl, C_{1-4} alkoxy, cyano or combinations thereof,
 - aryl having 6 to 14 carbon atoms, which is unsubstituted or substituted one or more times by halogen, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, nitro, methylenedioxy, ethylenedioxy, amino, C_{1-4} alkylamino, di- C_{1-4} -alkylamino, C_{1-4} -hydroxyalkyl, C_{1-4} -hydroxyalkoxy, carboxy, cyano, hydroxamic acid, carboxamide, C_{2-4} -acyl, C_{2-4} -alkoxycarbonyl, C_{1-4} -alkylsulphinyl, C_{1-4} -alkylsulphonyl, phenoxy, or combinations thereof,
 - heteroaryl having 5 to 10 ring atoms in which at least 1 ring atom is a heteroatom, which is unsubstituted or substituted one or more times by halogen, aryl, $C_{1.4}$ alkyl, halogenated $C_{1.4}$ alkyl, hydroxy, $C_{1.4}$ -alkoxy, halogenated $C_{1.4}$ alkoxy, cyano, trifluoromethyl, nitro, oxo, amino, $C_{1.4}$ -alkylamino, di- $C_{1.4}$ -alkylamino, carboxy, alkoxycarbonyl, hydroxamic acid, carboxamide, $C_{1.4}$ -alkylthio, $C_{1.4}$ -alkylsulphonyl, or combinations thereof,
- heterocycle having 5 to 10 ring atoms in which at least 1 ring atom is a heteroatom, which is unsubstituted or is substituted one or more times in the by halogen, aryl, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, cyano, trifluoromethyl, nitro, oxo, amino, C_{1-4} -alkylamino, di- C_{1-4} -alkylamino, carboxy, alkoxycarbonyl, or combinations thereof (e.g., piperidinyl, imidazolinyl, imidazolidinyl, pyrrolinyl, pyrrolidinyl, morpholinyl, piperazinyl, and indolinyl), or
 - carbocycle which is nonaromatic, monocyclic or blcyclic, group having 5 to 14 carbon atoms, which is unsubstituted or is substituted one or more times in the by halogen, C₁₋₄ alkyl, halogenated C₁₋₄ alkyl, hydroxy, C₁₋₄-alkoxy, halogenated C₁₋₄ alkoxy, nitro, methylenedioxy, ethylenedioxy, amino, C₁₋₄ alkylamino, di-C₁₋₄-

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pharmaceutically acceptable salts thereof.

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34. A compound of Formula III:

wherein

15 R¹" is methyl, ethyl, or cyclopropyl; and

R²" is phenyl,

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phenyl which is substituted one or more times by halogen, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, nitro, methylenedioxy, ethylenedioxy, amino, C_{1-4} alkylamino, di- C_{1-4} -alkylamino, C_{1-4} -hydroxyalkyl, C_{1-4} -hydroxyalkoxy, carboxy, cyano, C_{2-4} -acyl, C_{2-4} -alkoxycarbonyl, C_{1-4} -alkylthio, C_{1-4} -alkylsulphinyl, C_{1-4} -alkylsulphonyl, phenoxy, or combinations thereof, or

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heteroaryl having 5 to 10 ring atoms in which at least 1 ring atom is a heteroatom, substituted heteroaryl having 5 to 10 ring atoms, in which at least 1 ring atom is a heteroatom, which is unsubstituted or substituted one or more times by halogen, aryl, C₁₋₄-alkyl, C₁₋₄-alkoxy, cyano, trifluoromethyl, nitro, oxo, amino, C₁₋₄alkylamino, di-C₁₋₄-alkylamino or combinations thereof,

or when R¹ is methyl or cyclopropyl R² can also be cycloalkyl having 3 to 12 carbon atoms:

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pharmaceutically acceptable salts thereof.

.35.A compound according to claim 1, wherein said compound selected from:

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6-Cyclopropylamino-9-(2-fluorobenzyl)-2-trifluoromethylpurine 6-Ethylamino-9-(2-fluorobenzyl)-2-trifluoromethylpurine 6-Cyclopropylamino-9-(4-flyorobenzyl)-2-trifluoromethylpurine 6-Cyclopropylamino-9-(2, 6-difluorobenzyl)-2-trifluoromethylpurine 20 6-Cyclopropylamino-9-(2, 3-d\fluorobenzyl)-2-trifluoromethylpurine 6-Cyclopropylamino-9-propyl 2-trifluoromethylpurine 6-Cyclopropylamino-9-cyclopentyl-2-trifluoromethylpurine 6-Cyclopropylamino-9-(3, 4-dimethoxybenzyl)-2-trifluoromethylpurine 6-Cyclopropylamino-9-(3,4-methylenedioxybenzyl)-2-25 trifluoromethylpurine 6-Cyclopropylamino-9-(3-thiophenemethyl)-2-trifluoromethylpurine 6-Cyclopropylamino-9-(2-methylphenethyl)-2-trifluoromethylpurine 6-Cyclopropylamino-9-cycloheptyl-2-thifluoromethylpurine 6-Methylamino-9-cyclopentyl-2-trifluoromethylpurine 30 6-Cyclopropylamino-9-cyclohexyl-2-trifluoromethylpurine 6-Methylamino-9-cycloheptyl-2-trifluoromethylpurine

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6-Cyclopropylamino-9-cyclopentylmethyl-\(\frac{1}{2}\)-trifluoromethylpurine

6-Cyclopropylamino-9-phenyl-2-trifluoromethylpurine

6-Cyclopropylamino-9-(2-fluorophenyl)-2-trifluoromethylpurine

6-Cyclopropylamino-9-cyclobutyl-2-trifluoromethylpurine

6-Cyclopropylamino-9-(2-norboranane)-2-trifluoromethylpurine

6-Cyclopropylamino-9-(1-indanyl)-2-trifluoromethylpurine

6-Cyclopropylamino-9-(4-fluorophenyl)-2-trifluoromethylpurine

6-Cyclopropylamino-9-(4-chlorophenyl)-2-trifluoromethylpurine

6-Cyclopropylamino-9-(3-thienyl)-2-trifluoromethylpurine

6-Methylamino-9-cycloheptyl-2-trifluoromethylpurine

& Cyclopropylamino-9-(2-fluorophenyl)-2-trifluoromethylpurine 6-Cyclopropylamino-9-cyclobutyl-2-trifluoromethylpurine 6-Cyclopropylamino-9-(2-norboranane)-2-trifluoromethylpurine 5. 6-Cyclopropylamino-9-(4-fluorophenyl)-2-trifluoromethylpurine 6-Cyclopropylamino-9-(4-chlorophenyl)-2-trifluoromethylpurine 6-Cyclopropylamino-9-(3-thienyl)-2-trifluoromethylpurine 6-Cyclopropylamino-9-(3, 4-dimethoxyphenyl)-2-trifluoromethylpurine 6-Cyclopropylamino-9-(2, 6-dichloro-4-pyridylmethyl)-2-trifluoromethylpurine 6-Cyclopropylamino-9-(4-methoxybenzyl)-2-trifluoromethylpurine 10 6-Cyclopropylamino-9-(3-methoxyphenyl)-2-trifluoromethylpurine 6-Cyclopropylamino-9-(4-methoxyphenyl)-2-trifluoromethylpurine 6-Cyclopropylamino-9-(3-nitrophenyl)-2-trifluoromethylpurine 6-Cyclopropylamino-9-(2-methoxyphenyl)-2-trifluoromethylpurine 6-Cyclopropylamino-9-(3-cyanophenyl)-2-trifluoromethylpurine 15 6-Cyclopropylamino-9-(3-nitrobenzyl)-2-trifluoromethylpurine 6-Cyclopropylamino-9-(4-pyridyl)-2-trifluoromethylpurine 6-Methylamino-9-(2, 4-dimethoxy-5-pyrimidyl)-2-trifluoromethylpurine 6-Methylamino-9-(4-methoxyphenyl)-2-trifluoromethylpurine 20 6-Methylamino-9-(3-acetylphenyl)-2-trifluoromethylpurine 6-Methylamino-9-(3-methoxyphenyl)-2-trifluoromethylpurine 6-Methylamino-9-(3-nitrophenyl)-2-trifluoromethylpurine 6-Cyclopropylamino-9-(3-ethoxyphenyl)-2-trifluoromethylpurine 6-Methylamino-9-(3,4-dimethoxyphenyl)-2-trifluoromethylpurine; and 25 pharmaceutically acceptable salts thereof.

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Same.

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6-Cyclopropylamino-9-phenyl-2-trifluoromethylpurine

37. A method for enhancing cognition in a patient in whom such enhancement is desired comprising administering to said patient an effective amount of a compound according to formula I^c:

H N R 1c N I c

wherein,
R^{1c} is H,

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alkyl having 1 to 5 carbon atoms, which is unsustituted or substituted one or more times by halogen, hydroxy, or combinations thereof, and wherein a -CH₂- group can be optionally replaced by -O-, -S-, or -NH-,

cycloalky having 3 to 6 carbon atoms, or

10 cycloalkylalkyl having 4 to 7 C atoms;

R^{2c} is alkyl having 1 to 12 carbon atoms, which is unsubstituted or substituted one or more times by halogen, hydroxy, cyano or combinations thereof, wherein one or more -CH₂- groups is each independently optionally replaced by -O-, -S-, or -NH-, and wherein optionally one or more -CH₂CH₂- groups is replaced in each case by -CH=CH-or)-C≡C-

alkyl ether having 3 to 12 carbon atoms,

cycloalkyl having 3 to 12 carbon atoms, which is unsubstituted or substituted one or more times by halogen, C_{1-4} alkyl, halogenated C_{1-4} alkyl, C_{1-4} alkoxy, cyano or combinations thereof,

cycloalkylalkyl having 4 to 12 C atoms, which is unsubstituted or substituted one or more times by C_{1-4} alkyl, halogenated C_{1-4} alkyl, C_{1-4} alkoxy, cyano, halogen, or combinations thereof,

aryl having 6 to 14 carbon atoms, which is unsubstituted or substituted one or more times by halogen, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, nitro, methylenedioxy, ethylenedioxy, amino, C_{1-4}

alkylamino, di- C_{1-4} -alkylamino, C_{1-4} -hydroxyalkyl, C_{1-4} -hydroxyalkoxy, carboxy, cyano, hydroxamic acid, carboxamide, C_{2-4} -acyl, C_{2-4} -alkoxycarbonyl, C_{1-4} -alkylsulphinyl, C_{1-4} -alkylsulphonyl, phenoxy, or combinations thereof,

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arylalkyl having 7 to 16 carbon atoms, which is unsubstituted or substituted one or more times by halogen, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, nitro, methylenedioxy, ethylenedioxy, amino, C_{1-4} alkylamino, C_{1-4} -alkylamino, C_{1-4} -hydroxyalkyl, C_{1-4} -hydroxyalkoxy, carboxy, cyano, hydroxamic acid, carboxamide, C_{2-4} -acyl, C_{2-4} -alkoxycarbonyl, C_{1-4} -alkylthio, C_{1-4} -alkylsulphinyl, C_{1-4} -alkylsulphonyl, phenoxy, or combinations thereof,

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heteroaryl having 5 to 10 migratoms in which at least 1 ring atom is a heteroatom, which is unsubstituted or substituted one or more times by halogen, aryl, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, cyano, trifluoromethyl, nitro, oxo amino, C_{1-4} -alkylamino, di- C_{1-4} -alkylamino, carboxy, alkoxycarbonyl, hydroxamic acid, carboxamide, C_{1-4} -alkylthio, C_{1-4} -alkylsulphinyl, C_{1-4} -alkylsulphonyl, ox combinations thereof,

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heteroarylalkyl wherein the heteroaryl portion has 5 to 10 ring atoms in which at least 1 ring atom is a heteroatom and the alkyl portion has 1 to 3 carbon atoms, the heteroaryl portion is unsubstituted or is substituted one or more times in by halogen, aryl, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, cyano, trifluoromethyl, nitro, oxo, amino, C_{1-4} -alkylamino, di- C_{1-4} -alkylamino, carboxy, alkoxycarbonyl, hydroxamic acid, carboxamide, C_{1-4} -alkylthio, C_{1-4} -alkylsulphinyl, C_{1-4} -alkylsulphonyl, or combinations thereof,

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heterocycle having 5 to 10 ring atoms in which at least 1 ring atom is a heteroatom, which is unsubstituted or is substituted one or more times in the by halogen, aryl, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, cyano, trifluoromethyl, nitro, oxo, amino, C_{1-4} -alkylamino, di- C_{1-4} -alkylamino, carboxy, alkoxycarbonyl, or combinations thereof,

heterocycle-alkyl wherein the heterocycle portion has 5 to 10 ring atoms in which at least 1 ring atom is a heteroatom and the alkyl portion has 1 to 3 carbon atoms, the heterocycle portion is nonarmoatic and is unsubstituted or is substituted one or more times in the by halogen, aryl, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} alkoxy, halogenated C_{1-4} alkoxy, cyano, trifluoromethyl, nitro, oxo, amino, C_{1-4} alkylamino, di- C_{1-4} alkylamino, carboxy, alkoxycarbonyl, or combinations thereof, or

carbocycle which is nonaromatic, monocyclic or bicyclic, group having 5 to 14 carbon atoms, which is unsubstituted or is substituted one or more times in the by halogen, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, nitro, methylenedioxy, ethylenedioxy, amino, C_{1-4} alkylamino, di- C_{1-4} -alkylamino, C_{1-4} -hydroxyalkyl, C_{1-4} -hydroxyalkoxy, carboxy, cyano, hydroxamic acid, carboxamide, C_{2-4} -acyl, C_{2-4} -alkoxycarbonyl, C_{1-4} -alkylthio, C_{1-4} -alkylsulphinyl, C_{1-4} -alkylsulphonyl, phenoxy, or combinations thereof;

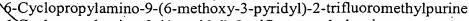
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pharmaceutically acceptable salts thereof,

with the proviso that said compound is not 6-methylamino-9-(2-fluorobenzyl)-2-trifluoromethylpurine.

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- 38. A method according to claim 37, wherein said compound is administered in an amount of 0.01-100 mg/kg of body weight/day.
- 39. A method according to claim 37, wherein said patient is a human.
- 40. A method according to claim 37, wherein said compound selected from:
- 6-Cyclopropylamino-Q-(2-fluorobenzyl)-2-trifluoromethylpurine;
- 6-Ethylamino-9-(2-fludrobenzyl)-2-trifluoromethylpurine
- 6-Cyclopropylamino-9-(\(\frac{4}{2}\)-fluorobenzyl)-2-trifluoromethylpurine
- 6-Cyclopropylamino-9-(2, 6-difluorobenzyl)-2-trifluoromethylpurine 6-Cyclopropylamino-9-(2, 3-difluorobenzyl)-2-trifluoromethylpurine 6-Cyclopropylamino-9-propyl 2-trifluoromethylpurine
 - 6-Cyclopropylamino-9-cyclopentyl-2-trifluoromethylpurine 6-Cyclopropylamino-9-(3, 4-dynethoxybenzyl)-2-trifluoromethylpurine
- 6-Cyclopropylamino-9-(3,4-methylenedioxybenzyl)-2-trifluoromethylpurine 6-Cyclopropylamino-9-(3-thiophenemethyl)-2-trifluoromethylpurine 6-Cyclopropylamino-9-cyclopropylmethyl-2-trifluoromethylpurine 6-Cyclopropylamino-9-cyclopropylmethyl-2-trifluoromethylpurine
 - 6-Cyclopropylamino-9-cycloheptyl-2-trifluoromethylpurine
- 20 6-Methylamino-9-cyclopentyl-2-trifluoromethylpurine 6-Cyclopropylamino-9-cyclohexyl-2-trifluoromethylpurine
 - 6-Methylamino-9-cycloheptyl-2-trifluoromethylpurine
 - 6-Cyclopropylamino-9-cyclopentylmethyl-2-trifluoromethylpurine
 - 6-Cyclopropylamino-9-phenyl-2-trifluoromethylpurine
- 25 6-Cyclopropylamino-9-(2-fluorophenyl)-2-trifluoromethylpurine
 - 6-Cyclopropylamino-9-cyclobutyl-2-trifluoromethylpurine
 - 6-Cyclopropylamino-9-(2-norboranane)-2-trifluoromethylpurine
 - 6-Cyclopropylamino-9-(1-indanyl)-2-trifluoromethylpurine
 - 6-Cyclopropylamino-9-(4-fluorophenyl)-2-trifluoromethylpurine
- 30 6-Cyclopropylamino-9-(4-chlorophenyl)-2-trifluoromethylpurine
 - 6-Cyclopropylamino-9-(4-tolyl)-2-trifluoromethylpurine
 - 6-Cyclopropylamino-9-(3-thienyl)-2-trifluoromethylpurine
 - o-Cyclopropylamino-9-(3-unonyl)-2-unituolomethylpunite
 - 6-Cyclopropylamino-9-(3-cyclopentyloxy-4-methoxybenzyl)-2-trifluoromethylpurine
 - 6-Cyclopropylamino-9-(3, 4-dimethoxyphenyl)-2-trifluoromethylpurine
- 35 6-Cyclopropylamino-9-(2, 6-dichloro-4-pyridylmethyl)-2-trifluoromethylpurine
 - 6-Cyclopropylamino-9-(4-methoxybenzyl)-2-trifluoromethylpurine
 - 6-Cyclopropylamino-9-(3-methoxyphenyl)-2-trifluoromethylpurine
 - 6-Cyclopropylamino-9-(4-methoxyphenyl)-2-trifluoromethylpurine
 - 6-Cyclopropylamino-9-(3-nitrophenyl)-2-trifluoromethylpurine
- 40 6-Cyclopropylamino-9-(2-methoxyphenyl)-2-trifluoromethylpurine
 - 6-Cyclopropylamino-9-(3-cyanophenyl)-2-trifluoromethylpurine
 - 6-Cyclopropylamino-9-(2, 4-dimethoxyphenyl)-2-trifluoromethylpurine
 - 6-Cyclopropylamino-9-(3-nitrobenzyl)-2-trifluoromethylpurine



6-Cyclopropylamino-9-(4-pyridyl)-2-trifluoromethylpurine

6-Cyclopropylamino-9-(3-pyridyl)-2-trifluoromethylpurine

6-Cyclopropylamino-9-(4-dimethylaminophenyl)-2-trifluoromethylpurine

- 5 6-Cyclopropylamino-9-(3-aminophenyl)-2-trifluoromethylpurine
 - 6-Methylamino-9-(2, 4-dimethoxy-5-pyrimidyl)-2-trifluoromethylpurine
 - 6-Methylamino-9-(2-methoxyphenyl)-2-trifluoromethylpurine
 - 6-Methylamino-9-(4-methoxyphenyl)-2-trifluoromethylpurine
 - 6-Methylamino-9-(3-acetylphenyl)-2-trifluoromethylpurine
- 10 6-Methylamino-9-(3-methoxyphenyl)-2-trifluoromethylpurine
 - 6-Methylamino-9-(3-nitrophenyl)-2-trifluoromethylpurine
 - 6-Cyclopropylamino-9-(3-furanyl)-2-trifluoromethylpurine
 - 6-Cyclopropylamino-9-(4-ethoxyphenyl)-2-trifluoromethylpurine
 - 6-Cyclopropylamino-9-(2-ethoxyphenyl)-2-trifluoromethylpurine
- 6-Cyclopropylamino-9-(3, 4-methylenedioxyphenyl)-2-trifluoromethylpurine
 - 6-Cyclopropylamino-9-(3-ethoxyphenyl)-2-trifluoromethylpurine
 - 6-Methylamino-9-(3,4-dimethoxyphenyl)-2-trifluoromethylpurinep; and pharmaceutically acceptable salts thereof.
- 20 41. A method according to claim 40, wherein said patient is a human.
 - 42. A method according to claim 41, wherein said compound is administered in an amount of 0.01-100 mg/kg of body weight/day.
- 43. A method according to claim 37, wherein when R^{1c} is methyl, then R^{2c} is not arylalkyl, methyl or 2-butyl, and when R^{1c} is H, then R^{2c} is not benzyl
 - 44. A method according to claim 37, wherein:
 - (a) when R^{1c} is methyl, then R^{2c} is not arylalkyl, heteroarylalkyl, 2-
 - (1,2,3,4-tetrahydra)quinolinyl-methyl, methyl or 2-butyl;
 - (b) when R^{1c} is by clopropyl, R^{2c} is not 4-methylbenzyl;
 - (c) when R^{1c} is ethyl, then R^{2c} is not ethyl, 3-aminobenzyl, 2-thienylmethyl, 3-thienylmethyl, or 2-pyridylmethyl;
 - (d) when R^{1c} is cyclopropyl, then R^{2c} is not cyclopropylmethyl;
- 35 (e) when R^{1c} is H, then R^{2c} is not methyl, ethyl, benzyl, 4-methylbenzyl, or substituted tetrahydrofuranyl;

- (f) when R^{1c} is methoxyethyl, then R^{2c} is not benzyl, 3-dimethylaminobenzyl, or 3-thienylmethyl;
- (g) when R^{1c} is iso-butyl, then R^{2c} is not benzyl; and
- (h) when R^{1c} is n-butyl, then R^{2c} is not n-butyl.

45. A method of treating a patient suffering from cognition impairment or decline comprising administering to said patient an effective amount of a compound according to formula I^c:

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wherein,

R^{1c} is H,

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alkyl having 1 to 5 carbon atoms, which is unsustituted or substituted one or more times by halogen, hydroxy, or combinations thereof, and wherein a -CH₂- group can be optionally replaced by -O-, -S-, or -NH-,

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cycloalkyl having 3 to 6 carbon atoms, or

cycloalkylalkyl having 4 to 7 C atoms;

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R^{2c} is alkyl having 1 to 12 carbon atoms, which is unsubstituted or substituted one or more times by halogen, hydroxy, cyano or combinations thereof, wherein one or

more -CH₂- groups is each independently optionally replaced by -O-, -S-, or -NH-, and wherein optionally one or more -CH₂CH₂- groups is replaced in each case by -CH=CH- or -C \equiv C-

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alkyl ether having 3 to 12 carbon atoms,

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cycloalkyl having 3 to 12 carbon atoms, which is unsubstituted or substituted one or more times by halogen, C_{1-4} alkyl, halogenated C_{1-4} alkyl, C_{1-4} alkoxy, cyano or combinations thereof,

cycloalkylalkyl having 4 to 12 C atoms, which is unsubstituted or substituted one or more times by C_{1-4} alkyl, halogenated C_{1-4} alkyl, C_{1-4} alkoxy, cyano, halogen, or combinations thereof,

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aryl having 6 to 14 carbon atoms, which is unsubstituted or substituted one or more times by halogen, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, nitro, methylenedioxy, ethylenedioxy, amino, C_{1-4} alkylamino, di- C_{1-4} -alkylamino, C_{1-4} -hydroxyalkyl, C_{1-4} -hydroxyalkoxy, carboxy, cyano, hydroxamic acid, carboxamide, C_{2-4} -acyl, C_{2-4} -alkoxycarbonyl, C_{1-4} -alkylsulphinyl, C_{1-4} -alkylsulphonyl, phenoxy, or combinations thereof,

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arylalkyl having 7 to 16 carbon atoms, which is unsubstituted or substituted one or more times by halogen, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, nitro, methylenedioxy, ethylenedioxy, amino, C_{1-4} alkylamino, di- C_{1-4} -alkylamino, C_{1-4} -hydroxyalkyl, C_{1-4} -hydroxyalkoxy, carboxy, cyano, hydroxamic acid, carboxamide, C_{2-4} -acyl, C_{2-4} -alkoxycarbonyl, C_{1-4} -alkylsulphinyl, C_{1-4} -alkylsulphonyl, phenoxy, or combinations thereof,

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heteroaryl having 5 to 10 ring atoms in which at least 1 ring atom is a heteroatom, which is unsubstituted or substituted one or more times by halogen, aryl, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, cyano, trifluoromethyl, nitro, oxo, amino, C_{1-4} -alkylamino, di- C_{1-4} -alkylamino, carboxy, alkoxycarbonyl, hydroxamic acid, carboxamide, C_{1-4} -alkylthio, C_{1-4} -alkylsulphinyl, C_{1-4} -alkylsulphonyl, or combinations thereof,

heteroarylalkyl wherein the heteroaryl portion has 5 to 10 ring atoms in which at least 1 ring atom is a heteroatom and the alkyl portion has 1 to 3 carbon atoms, the heteroaryl portion is unsubstituted or is substituted one or more times in by halogen, aryl, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, cyano, trifluoromethyl, nitro, oxo, amino, C_{1-4} -alkylamino, di- C_{1-4} -alkylamino, carboxy, alkoxycarbonyl, hydroxamic acid, carboxamide, C_{1-4} -alkylthio, C_{1-4} -alkylsulphinyl, C_{1-4} -alkylsulphonyl, or combinations thereof,

heterocycle having 5 to 10 ring atoms in which at least 1 ring atom is a heteroatom, which is unsubstituted or is substituted one or more times in the by halogen, aryl, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, cyano, trifluoromethyl, nitro, oxo, amino, C_{1-4} -alkylamino, di- C_{1-4} -alkylamino, carboxy, alkoxycarbonyl, or combinations thereof,

heterocycle-alkyl wherein the heterocycle portion has 5 to 10 ring atoms in which at least 1 ring atom is a heteroatom and the alkyl portion has 1 to 3 carbon atoms, the heterocycle portion is nonarmoatic and is unsubstituted or is substituted one or more times in the by halogen, aryl, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, cyano, trifluoromethyl, nitro, oxo, amino, C_{1-4} -alkylamino, di- C_{1-4} -alkylamino, carboxy, alkoxycarbonyl, or combinations thereof, or

carbocycle which is nonaromatic, monocyclic or bicyclic, group having 5 to 14 carbon atoms, which is unsubstituted or is substituted one or more times in the by halogen, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, nitro, methylenedioxy, ethylenedioxy, amino, C_{1-4} alkylamino, di- C_{1-4} -alkylamino, C_{1-4} -hydroxyalkyl, C_{1-4} -hydroxyalkoxy, carboxy, cyano, hydroxamic acid, carboxamide, C_{2-4} -acxyl, C_{2-4} -alkoxycarbonyl, C_{1-4} -alkylthio, C_{1-4} -alkylsulphinyl, C_{1-4} -alkylsulphinyl, phenoxy, or combinations thereof;

10 and

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pharmaceutically acceptable salts thereof,

with the proviso that said compound is not 6-methylamino-9 (2-fluorobenzyl)-2-trifluoromethylpurine.

- 46. A method according to claim 45, wherein said patient is a human.
- 47. A method according to claim 46, wherein said patient is suffering from memory 20 impairment.

R.1.126 48

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49. A method according to claim 45, wherein said compound is administered in an amount of 0.01-100 mg/kg of body weight/day.

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- 25 30. A method according to claim 43 wherein said patient is suffering from memory impairment due to Alzheimer's disease, schizophrenia, Parkinson's disease, Huntington's disease, Pick's disease, Creutzfeld-Jakob disease, depression, aging, head trauma, stroke, CNS hypoxia, cerebral senility multiinfarct dementia, HIV or cardiovascular disease.
- 30 So.

 A method according to claim 45, wherein said compound selected from:

&-Cyclopropylamino-9-(2-fluorobenzyl)-2-trifluoromethylpurine 6\Methylamino-9-(2-fluorobenzyl)-2-trifluoromethylpurine 6-Ethylamino-9-(2-fluorobenzyl)-2-trifluoromethylpurine 6-Cyclopropylamino-9-(4-fluorobenzyl)-2-trifluoromethylpurine 6-Cyclopropylamino-9-(2, 6-difluorobenzyl)-2-trifluoromethylpurine 6-Cyclopropylamino-9-(2, 3-difluorobenzyl)-2-trifluoromethylpurine 6-Cyclopropylamino-9-propyl 2-trifluoromethylpurine 6-Cyclopropylamino-9-cyclopentyl-2-trifluoromethylpurine 6-Cyclopropylamino-9-(3, 4-dimethoxybenzyl)-2-trifluoromethylpurine 10 6-Cycloprop \(\frac{1}{2}\)amino-9-(3,4-methylenedioxybenzyl)-2trifluoromethylpurine 6-Cyclopropylamino-9-(3-thiophenemethyl)-2-trifluoromethylpurine 6-Cyclopropylamino-9-(2-methylphenethyl)-2-trifluoromethylpurine 6-Cyclopropylamino-9-cyclopropylmethyl-2-trifluoromethylpurine 6-Cyclopropylamino-9-cycloheptyl-2-trifluoromethylpurine 15 6-Methylamino-9-cyclopentyl-2-trifluoromethylpurine 6-Cyclopropylamino-9-cyclohexyl-2-trifluoromethylpurine 6-Methylamino-9-cycloheptyl-2-trifluoromethylpurine 6-Cyclopropylamino-9-cyclopentylmethyl-2-trifluoromethylpurine 6-Cyclopropylamino-9-phenyl-2-trifluoromethylpurine 6-Cyclopropylamino-9-(2-fluorophenyl)-2-trifluoromethylpurine 20 6-Cyclopropylamino-9-cyclobutyl-2-trifluoromethylpurine 6-Cyclopropylamino-9-(2-norogranane)-2-trifluoromethylpurine 6-Cyclopropylamino-9-(1-indanyl)-2-trifluoromethylpurine 6-Cyclopropylamino-9-(4-fluorophenyl)-2-trifluoromethylpurine 25 6-Cyclopropylamino-9-(4-chlorophenyl)-2-trifluoromethylpurine -6-Cyclopropylamino-9-(4-tolyl)-2-thifluoromethylpurine 6-Cyclopropylamino-9-(3-thienyl)-2-trifluoromethylpurine 6-Cyclopropylamino-9-(3-cyclopentyloxy-4-methoxybenzyl)-2-trifluoromethylpurine 6-Cyclopropylamino-9-(3, 4-dimethoxyphenyl)-2-trifluoromethylpurine 30 6-Cyclopropylamino-9-(2, 6-dichloro-4-byridylmethyl)-2-trifluoromethylpurine 6-Cyclopropylamino-9-(4-methoxybenzyl)-2-trifluoromethylpurine 6-Cyclopropylamino-9-(3-methoxyphenyl)-2-trifluoromethylpurine 6-Cyclopropylamino-9-(4-methoxyphenyl)-2 trifluoromethylpurine 6-Cyclopropylamino-9-(3-nitrophenyl)-2-triflaoromethylpurine 35 6-Cyclopropylamino-9-(2-methoxyphenyl)-2-trifluoromethylpurine 6-Cyclopropylamino-9-(3-cyanophenyl)-2-trifluoromethylpurine 6-Cyclopropylamino-9-(2, 4-dimethoxyphenyl)-2\trifluoromethylpurine 6-Cyclopropylamino-9-(3-nitrobenzyl)-2-trifluoromethylpurine 6-Cyclopropylamino-9-(6-methoxy-3-pyridyl)-2-tritluoromethylpurine 40 6-Cyclopropylamino-9-(4-pyridyl)-2-trifluoromethylpurine 6-Cyclopropylamino-9-(3-pyridyl)-2-trifluoromethylpurine 6-Cyclopropylamino-9-(4-dimethylaminophenyl)-2-trilluoromethylpurine 6-Cyclopropylamino-9-(3-aminophenyl)-2-trifluoromethylpurine 6-Methylamino-9-(2, 4-dimethoxy-5-pyrimidyl)-2-trifluoromethylpurine 45 6-Methylamino-9-(2-methoxyphenyl)-2-trifluoromethylpurine

6-Methylamino-9-(4-methoxyphenyl)-2-trifluoromethylpurine

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6-Methylamino-9-(3-acetylphenyl)-2-trifluoromethylpurine
       6-Methylamino-9-(3-methoxyphenyl)-2-trifluoromethylpurine
       6-Methylamino-9-(3-nitrophenyl)-2-trifluoromethylpurine
       6-Cyclopropylamino-9-(3-furanyl)-2-trifluoromethylpurine
       6-Cyclopropylamino-9-(4-ethoxyphenyl)-2-trifluoromethylpurine
       6-Cyclopropylamino-9-(2-ethoxyphenyl)-2-trifluoromethylpurine
       6-Cyclopropylamino-9-(3, 4-methylenedioxyphenyl)-2-trifluoromethylpurine
       6-Cyclopropylamino-9-(3-ethoxyphenyl)-2-trifluoromethylpurine
       6-Methylamino \9-(3,4-dimethoxyphenyl)-2-trifluoromethylpurinep; and
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       pharmaceutically acceptable salts thereof.
       51
               A method according to claim 51, wherein said patient is a human.
       52
               A method according to claim 45, wherein when R<sup>1c</sup> is methyl, then R<sup>2c</sup> is not
       arylalkyl, methyl or 2-butyl, and when R<sup>1c</sup> is H, then R<sup>2c</sup> is not benzyl
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               A method according to claim 45, wherein:
                       (a) when R<sup>1c</sup> is methyl, then R<sup>2c</sup> is not arylalkyl, heteroarylalkyl, 2-
                       (1,2,3,4-tetrahydro)quinolinyl-methyl, methyl or 2-butyl;
                       (b) when R<sup>1c</sup> is cyclopropyl, R<sup>2c</sup> is not 4-methylbenzyl;
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                       (c) when R<sup>1c</sup> is ethyl, then R<sup>2c</sup> is not ethyl, 3-aminobenzyl, 2-
                       thienylmethyl, 3-thienylmethyl, or 2-pyridylmethyl;
                       (d) when R<sup>1c</sup> is cyclopropyl, then R<sup>2c</sup> is not cyclopropylmethyl;
                       (e) when R<sup>1c</sup> is H, then R<sup>2c</sup> is not methyl, ethyl, benzyl, 4-methylbenzyl, or
                       substituted tetrahydrofuranyl;
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                       (f) when R<sup>1c</sup> is methoxyethyl, then R<sup>2c</sup> is not benzyl, 3-
                       dimethylaminobenzyl, or 3-thienxlmethyl;
                       (g) when R1c is iso-butyl, then R2c is not benzyl; and
                       (h) when R<sup>1c</sup> is n-butyl, then R<sup>2c</sup> is not n-butyl.
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R.1.124 54
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A method for treating a patient having a disease involving decreased cAMP levels comprising administering to said patient an effective amount of a compound according to formula I^c:

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5 wherein, $R^{1c} \quad \text{is H},$

alkyl having 1 to 5 carbon atoms, which is unsustituted or substituted one or more times by halogen, hydroxy, or combinations thereof, and wherein a -CH₂- group can be optionally replaced by -O-, -S-, or -NH-,

cycloalkyl having 3 to 6 carbon atoms, or

cycloalkylalkyl having 4 to 7 C atoms;

R^{2c} is alkyl having 1 to 12 carbon atoms, which is unsubstituted or substituted one or more times by halogen, hydroxy, cyand or combinations thereof, wherein one or more -CH₂- groups is each independently optionally replaced by -O-, -S-, or -NH-, and wherein optionally one or more -CH₂CH₂- groups is replaced in each case by -CH=CH- or -C≡C-

alkyl ether having 3 to 12 carbon atoms,

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cycloalkyl having 3 to 12 carbon atoms, which is unsubstituted or substituted one or more times by halogen, C_{1-4} alkyl, halogenated C_{1-4} alkyl, C_{1-4} alkoxy, cyano or combinations thereof,

cycloalkylalkyl having 4 to 12 C atoms, which is unsubstituted or substituted one or more times by C_{1-4} alkyl, halogenated C_{1-4} alkyl, C_{1-4} alkoxy, cyano, halogen, or combinations thereof,

aryl having 6 to 14 carbon atoms, which is unsubstituted or substituted one or more times by halogen, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, nitro, methylenedioxy, ethylenedioxy, amino, C_{1-4} alkylamino, di- C_{1-4} -alkylamino, C_{1-4} -hydroxyalkyl, C_{1-4} -hydroxyalkoxy, carboxy, cyano, hydroxamic acid, carboxamide, C_{2-4} -acyl, C_{2-4} -alkoxycarbonyl, C_{1-4} -alkylsulphinyl, C_{1-4} -alkylsulphonyl, phenoxy, or combinations thereof,

arylalkyl having 7 to 16 carbon atoms, which is unsubstituted or substituted one or more times by halogen, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, nitro, methylenedioxy, ethylenedioxy, amino, C_{1-4} alkylamino, di- C_{1-4} -alkylamino, C_{1-4} -hydroxyalkyl, C_{1-4} -hydroxyalkoxy, carboxy, cyano, hydroxamic acid, carboxamide, C_{2-4} -acyl, C_{2-4} -alkoxycarbonyl, C_{1-4} -alkylthio, C_{1-4} -alkylsulphinyl, C_{1-4} -alkylsulphonyl, phenoxy, or combinations thereof,

heteroaryl having 5 to 10 ring atoms in which at least 1 ring atom is a heteroatom, which is unsubstituted or substituted one or more times by halogen, aryl, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, cyano, trifluoromethyl, nitro, oxo, amino, C_{1-4} -alkylamino, di- C_{1-4} -alkylamino, carboxy, alkoxycarbonyl, hydroxamic acid, carboxamide, C_{1-4} -alkylthio, C_{1-4} -alkylsulphinyl, C_{1-4} -alkylsulphonyl, or combinations thereof,

heteroarylalkyl wherein the heteroaryl portion has 5 to 10 ring atoms in which at least 1 ring atom is a heteroatom and the alkyl portion has 1 to 3 carbon atoms, the heteroaryl portion is unsubstituted or is substituted one or more times in by halogen, aryl, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, cyano, trifluoromethyl, nitro, oxo, amino, C_{1-4} -alkylamino, di- C_{1-4} -alkylamino, carboxy, alkoxycarbonyl, hydroxamic acid, carboxamide, C_{1-4} -alkylthio, C_{1-4} -alkylsulphinyl, C_{1-4} -alkylsulphonyl, or combinations thereof,

heterocycle having \S to 10 ring atoms in which at least 1 ring atom is a heteroatom, which is unsubstituted or is substituted one or more times in the by halogen, aryl, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, cyano, trifluoromethyl, nitro, oxo, amino, C_{1-4} -alkylamino, di- C_{1-4} -alkylamino, carboxy, alkoxycarbonyl, or combinations thereof,

heterocycle-alkyl wherein the heterocycle portion has 5 to 10 ring atoms in which at least 1 ring atom is a heteroatom and the alkyl portion has 1 to 3 carbon atoms, the heterocycle portion is nonarmoatic and is unsubstituted or is substituted one or more times in the by halogen, aryl, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, cyano, trifluoromethyl, nitro, oxo, amino, C_{1-4} -alkylamino, di- C_{1-4} -alkylamino, carboxy, alkoxycarbonyl, or combinations thereof, or

carbocycle which is nonaromatic, monocyclic or bicyclic, group having 5 to 14 carbon atoms, which is unsubstituted or is substituted one or more times in the by halogen, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} alkoxy, halogenated C_{1-4} alkoxy, nitro, methylenedioxy, ethylenedioxy, amino, C_{1-4} alkylamino, di- C_{1-4} alkylamino, C_{1-4} -hydroxyalkyl, C_{1-4} -hydroxyalkoxy, carboxy, cyano, hydroxamic

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acid, carboxamide, C₂₋₄-acyl, C₂₋₄-alkoxycarbonyl, C₁₋₄-alkylthio, C₁₋₄-alkylsulphinyl, C₁₋₄-alkylsulphonyl, phenoxy, or combinations thereof;

and

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pharmaceutically acceptable salts thereof,

with the proviso that said compound is not 6-methylamino-9-(2-fluorobenzyl)-2-trifluoromethylpurine.

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- 55 37. A method according to claim 56, wherein when R^{1c} is methyl, then R^{2c} is not arylalkyl, methyl or 2-butyl, and when R^{1c} is H, then R^{2c} is not benzyl
- 56 38. A method according to claim 56, wherein:

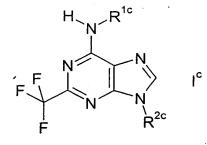
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- (a) when R^{1c} is methyl, then R^{2c} is not arylalkyl, heteroarylalkyl, 2-
- (1,2,3,4-tetrahydro)quinolinyl-methyl, methyl or 2-butyl;
- (b) when R^{1c} is cyclopropyl, R^{2c} is not 4-methylbenzyl;
- (c) when R^{1c} is ethyl, then R^{2c} is not ethyl, 3-aminobenzyl, 2-thienylmethyl, 3-thienylmethyl, or 2-pyridylmethyl;

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- (d) when R^{1c} is cyclopropyl, then R^{2c} is not cyclopropylmethyl;
- (e) when R^{1c} is H, then R^{2c} is not methyl, ethyl, benzyl, 4-methylbenzyl, or substituted tetrahydrofuranyl;
- (f) when R^{1c} is methoxyethyl, then R^{2c} is not benzyl, 3-dimethylaminobenzyl, or 3 thienylmethyl;

- (g) when R1c is iso-butyl, then R2c is not benzyl; and
- (h) when R^{1c} is n-butyl, then R^{2c} is not n-butyl.
- 57 39. A method of inhibiting PDE4 enzyme activity in a patient comprising
- 30 administering to said patient an effective amount of a compound according to formula I^c:



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wherein,

5 R^{1c} is H,

alkyl having 1 to 5 carbon atoms, which is unsustituted or substituted one or more times by halogen, hydroxy, or combinations thereof, and wherein a -CH₂- group can be optionally replaced by -O-, -S-, or -NH-,

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cycloalkyl having 3 to 6 carbon atoms, or

cycloalkylalkyl having 4 to 7 Catoms;

15 R^{2c}

is alkyl having 1 to 12 carbon atoms, which is unsubstituted or substituted one or more times by halogen, hydroxy, cyano or combinations thereof, wherein one or more -CH₂- groups is each independently optionally replaced by -O-, -S-, or -NH-, and wherein optionally one or more -CH₂CH₂- groups is replaced in each case by -CH=CH- or -C=C-

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alkyl ether having 3 to 12 carbon atoms,

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cycloalkyl having 3 to 12 carbon atoms, which is unsubstituted or substituted one or more times by halogen, C_{1-4} alkyl, halogenated C_{1-4} alkyl, C_{1-4} alkoxy, cyano or combinations thereof,

cycloalkylalkyl having 4 to 12 C atoms, which is unsubstituted or substituted one or more times by C_{1-4} alkyl, halogenated C_{1-4} alkyl, C_{1-4} alkoxy, cyano, halogen, or combinations thereof,

aryl having 6 to 14 carbon atoms, which is unsubstituted or substituted one or more times by halogen, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, nitro, methylenedioxy, ethylenedioxy, amino, C_{1-4} alkylamino, di- C_{1-4} alkylamino, C_{1-4} -hydroxyalkyl, C_{1-4} -hydroxyalkoxy, carboxy, cyano, hydroxamic acid, carboxamide, C_{2-4} -acyl, C_{2-4} -alkoxycarbonyl, C_{1-4} -alkylsulphinyl, C_{1-4} -alkylsulphonyl, phenoxy, or combinations thereof,

arylalkyl having 7 to 16 carbon atoms, which is unsubstituted or substituted one or more times by halogen, C_1 alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} alkoxy, halogenated C_{1-4} alkoxy, nitro, methylenedioxy, ethylenedioxy, amino, C_{1-4} alkylamino, C_{1-4} -alkylamino, C_{1-4} -hydroxyalkyl, C_{1-4} -hydroxyalkoxy, carboxy, cyano, hydroxamic acid, carboxamide, C_{2-4} -acyl, C_{2-4} -alkoxycarbonyl, C_{1-4} -alkylthio, C_{1-4} -alkylsulphinyl, C_{1-4} -alkylsulphonyl, phenoxy, or combinations thereof,

heteroaryl having 5 to 10 ring atoms in which at least 1 ring atom is a heteroatom, which is unsubstituted or substituted one of more times by halogen, aryl, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, cyano, trifluoromethyl, nitro, oxo, amino, C_{1-4} -alkylamino, di- C_{1-4} -alkylamino, carboxy, alkoxycarbonyl, hydroxamic acid, carboxamide, C_{1-4} -alkylthio, C_{1-4} -alkylsulphinyl, C_{1-4} -alkylsulphonyl, or combinations thereof,

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heteroarylalkyl wherein the heteroaryl portion has 5 to 10 ring atoms in which at least 1 ring atom is a heteroatom and the alkyl portion has 1 to 3 carbon atoms, the heteroaryl portion is unsubstituted or is substituted one or more times in by halogen, aryl, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, cyano, trifluoromethyl, nitro, oxo, amino, C_{1-4} -alkylamino, di- C_{1-4} -alkylamino, carboxy, alkoxycarbonyl, hydroxamic acid, carboxamide, C_{1-4} -alkylthio, C_{1-4} -alkylsulphinyl, C_{1-4} -alkylsulphonyl, or combinations thereof,

heterocycle having \S to 10 ring atoms in which at least 1 ring atom is a heteroatom, which is unsubstituted or is substituted one or more times in the by halogen, aryl, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, cyano, trifluoromethyl, nitro, oxo, amino, C_{1-4} -alkylamino, di- C_{1-4} -alkylamino, carboxy, alkoxycarbonyl, or combinations thereof,

heterocycle-alkyl wherein the heterocycle portion has 5 to 10 ring atoms in which at least 1 ring atom is a heteroatom and the alkyl portion has 1 to 3 carbon atoms, the heterocycle portion is nonarmoatic and is unsubstituted or is substituted one or more times in the by halogen, aryl, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, cyano, trifluoromethyl, nitro, oxo, amino, C_{1-4} -alkylamino, di- C_{1-4} -alkylamino, carboxy, alkoxycarbonyl, or combinations thereof,or

carbocycle which is nonaromatic, monocyclic or bicyclic, group having 5 to 14 carbon atoms, which is unsubstituted or is substituted one or more times in the by halogen, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, nitro, methylenedioxy, ethylenedioxy, amino, C_{1-4} alkylamino, C_{1-4} -hydroxyalkyl, C_{1-4} -hydroxyalkoxy, carboxy, cyano, hydroxamic

H. H. Carlotte Harm Harm

acid, carboxamide, C₂₋₄-acyl, C₂₋₄-alkoxycarbonyl, C₁₋₄-alkylthio, C₁₋₄-alkylsulphinyl, C₁₋₄-alkylsulphonyl, phenoxy, or combinations thereof;

and

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pharmaceutically acceptable salts thereof,

with the proviso that said compound is not 6-methylamino-9-(2-fluorobenzyl)-2-trifluoromethylpurine.

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A method according to claim 59, wherein when R^{1c} is methyl, then R^{2c} is not arylalkyl, methyl or 2-butyl, and when R^{1c} is H, then R^{2c} is not benzyl

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A method according to claim 59, wherein:

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- (a) when R^{1c} is methyl, then R^{2c} is not arylalkyl, heteroarylalkyl, 2-(1,2,3,4-tetrahydro)quinolinyl-methyl, methyl or 2-butyl;
- (b) when R^{1c} is cyclopropyl, R^{2c} is not 4-methylbenzyl;
- (c) when R^{1c} is ethyl, then R^{2c} is not ethyl, 3-aminobenzyl, 2-thienylmethyl, 3-thienylmethyl, or 2-pyridylmethyl;

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- (d) when R^{1c} is cyclopropyl, then R^{2c} is not cyclopropylmethyl;
- (e) when R^{1c} is H, then R^{2c} is not methyl, ethyl, benzyl, 4-methylbenzyl, or substituted tetrahydrofuranyl,
- (f) when R^{1c} is methoxyethyl, then R^{2c} is not benzyl, 3-dimethylaminobenzyl, or 3-thienxlmethyl;

- (g) when R^{1c} is iso-butyl, then R^{2c} is not benzyl; and
- (h) when R^{1c} is n-butyl, then R^{2c} is not n-butyl.
- (60 62. A pharmaceutical composition comprising a compound according to claim 1 and a pharmaceutically acceptable carrier.

- (2 %). A method of treating a patient suffering from memory impairment due to a
- 5 neurodegenerative disease comprising administering to said patient an effective amount of a compound according to formula I^c:

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wherein,

R^{1c} is H,

alkyl having 1 to 5 carbon atoms, which is unsustituted or substituted one or more times by halogen, hydroxy, or combinations thereof, and wherein a -CH₂- group can be optionally replaced by -O₇, -S-, or -NH-,

cycloalkyl having 3 to 6 carbon atoms, or

- 20 cycloalkylalkyl having 4 to 7 C atom;
 - R^{2c} is alkyl having 1 to 12 carbon atoms, which is unsubstituted or substituted one or more times by halogen, hydroxy, cyano or combinations thereof, wherein one or more -CH₂- groups is each independently optionally replaced by -O-, -S-, or -

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NH-, and wherein optionally one or more - CH_2CH_2 - groups is replaced in each case by -CH=CH- or -C=C-

5 alkyl ether having 3 to 12 carbon atoms,

cycloalkyl having 3 to 12 carbon atoms, which is unsubstituted or substituted one or more times by halogen, C_{1-4} alkyl, halogenated C_{1-4} alkyl, C_{1-4} alkoxy, cyano or combinations thereof,

cycloalkylalkyl having 4 to 12 C atoms, which is unsubstituted or substituted one or more times by C_{1-4} alkyl, halogenated C_{1-4} alkyl, C_{1-4} alkoxy, cyano, halogen, or combinations thereof,

aryl having 6 to 14 carbon atoms, which is unsubstituted or substituted one or more times by halogen, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, nitro, methylenedioxy, ethylenedioxy, amino, C_{1-4} alkylamino, di- C_{1-4} -alkylamino, C_{1-4} -hydroxyalkyl, C_{1-4} -hydroxyalkoxy, carboxy, cyano, hydroxamic acid, carboxamide, C_{2-4} -acyl, C_{2-4} -alkoxycarbonyl, C_{1-4} -alkylsulphinyl, C_{1-4} -alkylsulphonyl, phenoxy, or combinations thereof,

arylalkyl having 7 to 16 carbon atoms, which is unsubstituted or substituted one or more times by halogen, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, nitro, methylenedioxy, ethylenedioxy, amino, C_{1-4} alkylamino, di- C_{1-4} -alkylamino, C_{1-4} -hydroxyalkyl, C_{1-4} -hydroxyalkoxy, carboxy, cyano, hydroxamic acid, carboxamide, C_{2-4} -acyl, C_{2-4} -alkoxycarbonyl, C_{1-4} -alkylthio, C_{1-4} -alkylsulphinyl, C_{1-4} -alkylsulphonyl, phenoxy, or combinations thereof,

heteroaryl having 5 to 10 ring atoms in which at least 1 ring atom is a heteroatom,

which is unsubstituted or substituted one or more times by halogen, aryl, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, cyano, trifluoromethyl, nitro, oxo, amino, C_{1-4} -alkylamino, di- C_{1-4} -alkylamino, carboxy, alkoxycarbonyl, hydroxamic acid, carboxamide, C_{1-4} -alkylthio, C_{1-4} -alkylsulphinyl, C_{1-4} -alkylsulphonyl, or combinations thereof,

heteroarylalkyl wherein the heteroaryl portion has 5 to 10 ring atoms in which at least 1 ring atom is a heteroatom and the alkyl portion has 1 to 3 carbon atoms, the heteroaryl portion is unsubstituted or is substituted one or more times in by halogen, aryl, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, cyano, trifluoromethyl, nitro, oxo, amino, C_{1-4} -alkylamino, di- C_{1-4} -alkylamino, carboxy, alkoxycarbonyl, hydroxamic acid, carboxamide, C_{1-4} -alkylthio, C_{1-4} -alkylsulphinyl, C_{1-4} -alkylsulphonyl, or combinations thereof,

heterocycle having 5 to 10 ring atoms in which at least 1 ring atom is a heteroatom, which is unsubstituted or is substituted one or more times in the by halogen, aryl, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, cyano, trifluoromethyl, nitro, oxo, amino, C_{1-4} -alkylamino, di- C_{1-4} -alkylamino, carboxy, alkoxycarbonyl, or combinations thereof,

heterocycle-alkyl wherein the heterocycle portion has 5 to 10 ring atoms in which at least 1 ring atom is a heteroatom and the alkyl portion has 1 to 3 carbon atoms, the heterocycle portion is nonarmoatic and is unsubstituted or is substituted one or more times in the by halogen, aryl, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, cyano, trifluoromethyl, nitro, oxo, amino, C_{1-4} -alkylamino, di- C_{1-4} -alkylamino, carboxy, alkoxycarbonyl, or combinations thereof,or

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carbocycle which is nonaromatic, monocyclic or bicyclic, group having 5 to 14 carbon atoms, which is unsubstituted or is substituted one or more times in the by halogen, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, nitro, methylenedioxy, ethylenedioxy, amino, C_{1-4} alkylamino, di- C_{1-4} -alkylamino, C_{1-4} -hydroxyalkyl, C_{1-4} -hydroxyalkoxy, carboxy, cyano, hydroxamic acid, carboxamide, C_{2-4} -acyl, C_{2-4} -alkoxycarbonyl, C_{1-4} -alkylthio, C_{1-4} -alkylsulphonyl, phenoxy, or combinations thereof;

and

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pharmaceutically acceptable salts thereof,

with the proviso that said compound is not 6-methylamino-9-(2-fluorobenzyl)-2-trifluoromethylpurine.

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A method according to claim 64, wherein when R^{1c} is methyl, then R^{2c} is not arylalkyl, methyl or 2-butyl, and when R^{2c} is H, then R^{2c} is not benzyl

64 66. A method according to claim 64, wherein:

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- (a) when R^{1c} is methyl, then R^{2c} is not arylalkyl, heteroarylalkyl, 2-(1,2,3,4-tetrahydro)quinolinyl methyl, methyl or 2-butyl;
- (b) when R^{1c} is cyclopropyl, R² is not 4-methylbenzyl;
- (c) when R^{1c} is ethyl, then R^{2c} is not ethyl, 3-aminobenzyl, 2-thienylmethyl, 3-thienylmethyl, or 2-pyridylmethyl;

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- (d) when R^{1c} is cyclopropyl, then R² is not cyclopropylmethyl;
- (e) when R^{1c} is H, then R^{2c} is not methyl, ethyl, benzyl, 4-methylbenzyl, or substituted tetrahydrofuranyl;
- (f) when R^{1c} is methoxyethyl, then R^{2c} is not benzyl, 3-dimethylaminobenzyl, or 3-thienylmethyl;

- (g) when R1c is iso-butyl, then R2c is not benzyl; and
- (h) when R^{1c} is n-butyl, then R^{2c} is not n-butyl.

- A method of treating a patient suffering from memory impairment due to an acute neurodesenerative disorder comprising administering to said patient an effective amount
- 5 of a compound according to formula Ic:

wherein,

R^{1c} is H,

alkyl having 1 to 5 carbon atoms, which is unsustituted or substituted one or more times by halogen, hydroxyl or combinations thereof, and wherein a -CH₂- group can be optionally replaced by -O-, -S-, or -NH-,

cycloalkyl having 3 to 6 carbon atoms, or

cycloalkylalkyl having 4 to 7 C atoms;

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R^{2c} is alkyl having 1 to 12 carbon atoms, which is unsubstituted or substituted one or more times by halogen, hydroxy, cyano or combinations thereof, wherein one or more -CH₂- groups is each independently optionally replaced by -O-, -S-, or -NH-, and wherein optionally one or more -CH₂CH₂- groups is replaced in each case by -CH=CH- or -C≡C-

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alkyl ether having 3 to 12 carbon atoms,

cycloalkyl having 3 to 12 carbon atoms, which is unsubstituted or substituted one or more times by halogen, C₁₋₄ alkyl, halogenated C₁₋₄ alkyl, C₁₋₄ alkoxy, cyano or combinations thereof,

cycloalkylalkyl\having 4 to 12 C atoms, which is unsubstituted or substituted one or more times by C_{1-4} alkyl, halogenated C_{1-4} alkyl, C_{1-4} alkoxy, cyano, halogen, or combinations thereof,

aryl having 6 to 14 carbon atoms, which is unsubstituted or substituted one or more times by halogen, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, nitro, methylenedioxy, ethylenedioxy, amino, C_{1-4} alkylamino, di- C_{1-4} -alkylamino, C_{1-4} -hydroxyalkyl, C_{1-4} -hydroxyalkoxy, carboxy, cyano, hydroxamic acid, carboxamide, C_{2-4} -acyl, C_{2-4} -alkoxycarbonyl, C_{1-4} -alkylsulphinyl, C_{1-4} -alkylsulphonyl, phenoxy, or combinations thereof,

arylalkyl having 7 to 16 carbon atoms, which is unsubstituted or substituted one or more times by halogen, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, nitro, methylenedioxy, ethylenedioxy, amino, C_{1-4} alkylamino, C_{1-4} -alkylamino, C_{1-4} -hydroxyalkyl, C_{1-4} -hydroxyalkoxy, carboxy, cyano, hydroxamic acid, carboxamide, C_{2-4} -acyl, C_{2-4} -alkoxycarbonyl, C_{1-4} -alkylthio, C_{1-4} -alkylsulphinyl, C_{1-4} -alkylsulphonyl, phenoxy, or combinations thereof,

heteroaryl having 5 to 10 ring atoms in which at least 1 ring atom is a heteroatom, which is unsubstituted or substituted one or more times by halogen, aryl, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy,

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cyano, trifluoromethyl, nitro, oxo, amino, C_{1-4} -alkylamino, di- C_{1-4} -alkylamino, carboxy, alkoxycarbonyl, hydroxamic acid, carboxamide, C_{1-4} -alkylthio, C_{1-4} -alkylsulphinyl, C_{1-4} -alkylsulphonyl, or combinations thereof,

heteroarylalkyl wherein the heteroaryl portion has 5 to 10 ring atoms in which at least 1 ring atom is a heteroatom and the alkyl portion has 1 to 3 carbon atoms, the heteroaryl portion is unsubstituted or is substituted one or more times in by halogen, aryl, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, cyano, trifluoromethyl, nitro, oxo, amino, C_{1-4} -alkylamino, di- C_{1-4} -alkylamino, carboxy, alkoxycarbonyl, hydroxamic acid, carboxamide, C_{1-4} -alkylthio, C_{1-4} -alkylsulphinyl, C_{1-4} -alkylsulphonyl, or combinations thereof

heterocycle having 5 to 10 ring atoms in which at least 1 ring atom is a heteroatom, which is unsubstituted or is substituted one or more times in the by halogen, aryl, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, cyano, trifluoromethyl, nitro, oxo, amino, C_{1-4} -alkylamino, di- C_{1-4} -alkylamino, carboxy, alkoxycarbonyl, or combinations thereof,

heterocycle-alkyl wherein the heterocycle portion has 5 to 10 ring atoms in which at least 1 ring atom is a heteroatom and the alkyl portion has 1 to 3 carbon atoms, the heterocycle portion is nonarmoatic and is unsubstituted or is substituted one or more times in the by halogen, aryl, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, cyano, trifluoromethyl, nitro, oxo, amino, C_{1-4} -alkylamino, di- C_{1-4} -alkylamino, carboxy, alkoxycarbonyl, or combinations thereof,or

carbocycle which is nonaromatic, monocyclic of bicyclic, group having 5 to 14 carbon atoms, which is unsubstituted or is substituted one or more times in the by

halogen, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, nitro, methylenedioxy, ethylenedioxy, amino, C_{1-4} alkylamino, di- C_{1-4} -alkylamino, C_{1-4} -hydroxyalkyl, C_{1-4} -hydroxyalkoxy, carboxy, cyano, hydroxamic acid, carboxamide, C_{2-4} -acyl, C_{2-4} -alkoxycarbonyl, C_{1-4} -alkylthio, C_{1-4} -alkylsulphonyl, phenoxy, or combinations thereof;

and

pharmaceutically acceptable salts thereof,

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with the proviso that said compound is not 6-methylamino-9-(2-fluorobenzyl)-2-trifluoromethylpurine

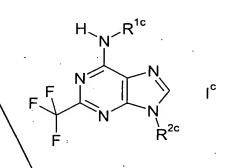
68. A method according to claim 67, wherein when R^{1c} is methyl, then R^{2c} is not arylalkyl, methyl or 2-butyl, and when R^{1c} is H, then R^{2c} is not benzyl

67 8. A method according to claim 65, wherein:

- (a) when R^{1c} is methyl, then R^{2c} is not arylalkyl, heteroarylalkyl; 2-(1,2,3,4-tetrahydro)quinolinyl-methyl, methyl or 2-butyl;
- (b) when R^{1c} is cyclopropyl, R^{2c} is not 4-methylbenzyl;
- (c) when R^{1c} is ethyl, then R^{2c} is not ethyl, 3-aminobenzyl, 2-thienylmethyl, 3-thienylmethyl, or 2-pyridylmethyl;
- (d) when R^{1c} is cyclopropyl, then R^{2c} is not cyclopropylmethyl;
- (e) when R^{1c} is H, then R^{2c} is not methyl, ethyl, benzyl, 4-methylbenzyl, or substituted tetrahydrofuranyl;
- (f) when R^{1c} is methoxyethyl, then R^{2c} is not benzyl, 3-dimethylaminobenzyl, or 3-thienylmethyl,
- (g) when R1c is iso-butyl, then R2c is not beneyl; and
- (h) when R^{1c} is n-butyl, then R^{2c} is not n-butyl

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wherein,

R^{1c} is H,

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alkyl having 1 to 5 carbon atoms, which is unsustituted or substituted one or more times by halogen, hydroxy, or combinations thereof, and wherein a -CH₂- group can be optionally replaced by -O-, S-, or -NH-,

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cycloalkyl having 3 to 6 carbon atoms or

cycloalkylalkyl having 4 to 7 C atoms;

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 $R^{2c} \\$

is alkyl having 1 to 12 carbon atoms, which is unsubstituted or substituted one or more times by halogen, hydroxy, cyano or combinations thereof, wherein one or more -CH₂- groups is each independently optionally replaced by -O-, -S-, or -NH-, and wherein optionally one or more -CH₂CH₂- groups is replaced in each case by -CH=CH- or -C=C-

cycloalkyl having 3 to 12 carbon atoms, which is unsubstituted or substituted one or more\times by halogen, C₁₋₄ alkyl, halogenated C₁₋₄ alkyl, C₁₋₄ alkoxy, cyano or combinations thereof,

cycloalkylalkyl having 4 to 12 C atoms, which is unsubstituted or substituted one or more times by C_{1-4} alkyl, halogenated C_{1-4} alkyl, C_{1-4} alkoxy, cyano, halogen, or combinations thereof,

aryl having 6 to 14 carbon atoms, which is unsubstituted or substituted one or

halogenated C₁₋₄ alkoxy, nitro, methylenedioxy, ethylenedioxy, amino, C₁₋₄

cyano, hydroxamic acid, carboxàmide, C₂₋₄-acyl, C₂₋₄-alkoxycarbonyl, C₁₋₄-

alkylthio, C₁₋₄-alkylsulphinyl, C₁₋₄\alkylsulphonyl, phenoxy, or combinations

more times by halogen, C_{14} alkyl, halogenated C_{14} alkyl, hydroxy, C_{14} -alkoxy,

alkylamino, di-C₁₋₄-alkylamino, C₁₋₄-hydroxyalkyl, C₁₋₄-hydroxyalkoxy, carboxy,

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thereof,

arylalkyl having 7 to 16 carbon atoms, which is unsubstituted or substituted one or more times by halogen, C₁₋₄ alkyl, halogenated C₁₋₄ alkyl, hydroxy, C₁₋₄alkoxy, halogenated C₁₋₄ alkoxy, nitro, methylenedioxy, ethylenedioxy, amino, C₁₋₄ alkylamino, di-C₁₋₄-alkylamino, C₁₋₄-hydroxyalkyl, C₁₋₄-hydroxyalkoxy, carboxy, cyano, hydroxamic acid, carboxamide, C₂₋₄-acyl, C₂₋₄-alkoxycarbonyl, C₁₋₄-alkylthio, C₁₋₄-alkylsulphinyl, C₁₋₄-alkylsulphonyl, phenoxy, or combinations thereof,

heteroaryl having 5 to 10 ring atoms in which at least \1 ring atom is a heteroatom, which is unsubstituted or substituted one or more times by halogen, aryl, C₁₋₄ alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, cyano, trifluoromethyl, nitro, oxo, amino, C₁₋₄-alkylamino, di-C₁₋₄-alkylamino,

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carboxy, alkoxycarbonyl, hydroxamic acid, carboxamide, C_{1-4} -alkylthio, C_{1-4} -alkylsulphinyl, C_{1-4} -alkylsulphonyl, or combinations thereof,

heteroarylalkyl wherein the heteroaryl portion has 5 to 10 ring atoms in which at least 1 ring atom is a heteroatom and the alkyl portion has 1 to 3 carbon atoms, the heteroaryl portion is unsubstituted or is substituted one or more times in by halogen, aryl, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, cyano, trifluoromethyl, nitro, oxo, amino, C_{1-4} -alkylamino, di- C_{1-4} -alkylamino, carboxy, alkoxycarbonyl, hydroxamic acid, carboxamide, C_{1-4} -alkylthio, C_{1-4} -alkylsulphinyl, C_{1-4} -alkylsulphonyl, or combinations thereof,

heterocycle having 5 to 10 ting atoms in which at least 1 ring atom is a heteroatom, which is unsubstituted or is substituted one or more times in the by halogen, aryl, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, cyano, trifluoromethyl, nitro, oxo, amino, C_{1-4} -alkylamino, di- C_{1-4} -alkylamino, carboxy, alkoxycarbonyl, or combinations thereof,

heterocycle-alkyl wherein the heterocycle portion has 5 to 10 ring atoms in which at least 1 ring atom is a heteroatom and the alkyl portion has 1 to 3 carbon atoms, the heterocycle portion is nonarmoatic and is unsubstituted or is substituted one or more times in the by halogen, aryl, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, cyano, trifluoromethyl, nitro, oxo, amino, C_{1-4} -alkylamino, di- C_{1-4} -alkylamino, carboxy, alkoxycarbonyl, or combinations thereof,or

carbocycle which is nonaromatic, monocyclic or bicyclid, group having 5 to 14 carbon atoms, which is unsubstituted or is substituted one or more times in the by halogen, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4}

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alkoxy, nitro, methylenedioxy, ethylenedioxy, amino, C_{1-4} alkylamino, di- C_{1-4} -alkylamino, C_{1-4} -hydroxyalkyl, C_{1-4} -hydroxyalkoxy, carboxy, cyano, hydroxamic acid, carboxamide, C_{2-4} -acyl, C_{2-4} -alkoxycarbonyl, C_{1-4} -alkylthio, C_{1-4} -alkylsulphinyl, C_{1-4} -alkylsulphonyl, phenoxy, or combinations thereof;

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and

pharmaceutically acceptable salts thereof,

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with the proviso that said compound is not 6-methylamino-9-(2-fluorobenzyl)-2-trifluoromethylamine.

71. A method according to claim 70, wherein when R^{1c} is methyl, then R^{2c} is not arylalkyl, methyl or 2-butyl, and when R^{1c} is H, then R^{2c} is not benzyl

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70 72. A method according to claim 70, wherein:

- (a) when R^{1c} is methyl, then R^{2c} is not arylalkyl, heteroarylalkyl, 2-(1,2,3,4-tetrahydro)quinolinyl-methyl, methyl or 2-butyl;
- (b) when R^{1c} is cyclopropyl, R^{2c} is not 4-methylbenzyl;

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- (c) when R^{1c} is ethyl, then R^{2c} is not ethyl, 3-aminobenzyl, 2-thienylmethyl, 3-thienylmethyl, or 2-pyridylmethyl;
- (d) when R^{1c} is cyclopropyl, then R^{2c} is not cyclopropylmethyl;
- (e) when R^{1c} is H, then R^{2c} is not methyl, ethyl, benzyl, 4-methylbenzyl, or substituted tetrahydrofuranyl;

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- (f) when R^{1c} is methoxyethy, then R^{2c} is not benzyl, 3-dimethylaminobenzyl, or 3-thenylmethyl;
- (g) when R^{1c} is iso-butyl, then R^{2c} is not benzyl; and
- (h) when R^{1c} is n-butyl, then R^{2c} is not n-butyl.

3071 %. A process for preparing compounds of the formula IV

wherein

 R^1 is H,

alkyl having 1 to 5 carbon atoms, which is unsustituted or substituted one or more times by halogen, hydroxy, or combinations thereof, and wherein a -CH₂- group can be optionally replaced by -O-, -S-, or -NH-,

cycloalkyl having 3 to 6 carbon atoms, or

cycloalkylalkyl having 4 to 7 C atoms; and

is aryl having 6 to 14 carbon atoms, which is unsubstituted or substituted one or more times by halogen, C_{1-4} alkyl, halogenated C_{1-4} alkyl, hydroxy, C_{1-4} -alkoxy, halogenated C_{1-4} alkoxy, nitro, methylenedioxy, ethylenedioxy, amino, C_{1-4} alkylamino, di- C_{1-4} -alkylamino, C_{1-4} -hydroxyalkyl, C_{1-4} -hydroxyalkoxy, carboxy, cyano, hydroxamic acid, carboxamide, C_{2-4} -acyl, C_{2-4} -alkoxycarbonyl, C_{1-4} -alkylthio, C_{1-4} -alkylsulphinyl, C_{1-4} -alkylsulphonyl, phenoxy, or combinations thereof,

heteroaryl having 5 to 10 ring atoms in which at least 1 ring atom is a heteroatom, which is unsubstituted or substituted one or more times by halogen, aryl, $C_{1.4}$ alkyl, halogenated $C_{1.4}$ alkyl, hydroxy, $C_{1.4}$ -alkoxy, halogenated $C_{1.4}$ alkoxy, cyano, trifluoromethyl, nitro, oxo, amino, $C_{1.4}$ -alkylamino, di- $C_{1.4}$ -alkylamino, carboxy, alkoxycarbonyl, hydroxamic acid, carboxamide, $C_{1.4}$ -alkylthio, $C_{1.4}$ -alkylsulphinyl, $C_{1.4}$ -alkylsulphonyl, or combinations thereof,

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 R^2

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said process comprising:

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reacting 6-N-R¹-substituted adenine with an arylboronic acid or heteroarylboronic acid in the presence of trialkylamine wherein the alkyl have 1 to 5 C atoms, e.g., triethylamine, as a base, a copper catalyst, and a polar aprotic solvent, for example THF and CH₃CN (particulary, CH₃CN) at a temperature of at least 50°C, e.g., 50-60°C.

72 3 . A compound according to claim 1, wherein R^{2} is cycloalkylalkyl.

1073 %. compound according to claim 74 wherein R¹ is alkyl, cycloalkyl or cycloalkylalkyl.

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